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Sustainable agriculture and rural development*

Report of the Secretary-General

Contents

		Paragraphs	Page
I.	Introduction	1–3	3
II.	Sustainable agriculture, food security and economic development	4–20	3
	A. Trends in agricultural production and food security	4–10	3
	B. Macroeconomic policy reforms and agricultural trade liberalization	11–17	4
	C. International cooperation related to food and agriculture	18–20	6
III.	Agriculture and social development	21–33	7
	A. Poverty alleviation	21–25	7
	B. Decentralization and institutional reforms	26–31	8
	C. Evolution of land tenure structures	32–33	9
IV.	Agriculture and the environment	34–56	9
	A. Combating the degradation of agricultural lands	35–37	9
	B. Integrated plant nutritional systems	38–39	10
	C. Control of pests and diseases	40–44	10
	D. Integrated pest management	45–47	11

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00-27597 (E) 160200

E. Agro-biodiversity and genetic resources 48–51 11
F. Organic farming 52–54 12
G. Other developments 55–56 12
V. Challenges and options for further action 57–73 13

I. Introduction

1. In accordance with the multi-year programme of work for the Commission on Sustainable Development, adopted by the General Assembly at its nineteenth special session, in 1997 (see General Assembly resolution S-19/2, annex), the Commission will consider at its eighth session the topic of agriculture as an economic sector. While the particular focus for the review is chapter 14 of Agenda 21 (Promoting sustainable agriculture and rural development), the Assembly called on the Commission to undertake an integrated discussion from the broad perspective of sustainable development, highlighting the linkages between economic, social and environmental objectives. The present report has been prepared with this approach in mind by the Food and Agriculture Organization of the United Nations (FAO), which serves as Inter-Agency Committee on Sustainable Development (IACSD) task manager for chapter 14 and other related chapters of Agenda 21. The report is supplemented by three addenda, dealing, respectively, with urbanization and sustainable agricultural development, biotechnology for sustainable agriculture, and the linkages between agriculture, land and water. The report of the Secretary-General and its addenda under the agenda item "Integrated planning and management of land resources" (E/CN.17/2000/6 and Add.1-4) are also highly relevant to the discussion. In addition, a background paper on the changing patterns of livestock production has been prepared by FAO for the Commission's consideration. Another background paper which summarizes the high-level consultation on rural women and information organized by FAO in October 1999 is also before the Commission.

2. The year 2000 offers the third opportunity for the Commission to review land and agriculture issues since the 1992 United Nations Conference on Environment and Development (UNCED). It may be useful to recall that at the third session of the Commission, in 1995, the Commission noted with concern that even though some progress had been reported, disappointment was widely expressed at the slow progress in moving towards sustainable agriculture and rural development in many countries.[1] At the fifth session of the Commission, which was then followed by the five-year review undertaken by the General Assembly in 1997, member States urged that sustainable food security for both the urban and rural poor be made a policy priority. They stressed the importance of implementing the commitments of the Rome Declaration on World Food Security and the World Food Summit Plan of Action, adopted by the World Food Summit (Rome, 1996), especially the call for a minimum target of halving the number of undernourished people in the world by the year 2015.[2]

3. Like earlier reports prepared by FAO for the Commission in 1995 and 1997, the present report includes a stock-taking of available information on the extent to which sustainable agriculture and rural development policies, strategies and programmes, as outlined in chapter 14 of Agenda 21, have been adopted. In addition, it also examines how this progress has helped to promote agriculture as an economic vehicle for attaining the major objectives of sustainable agriculture and rural development and the World Food Summit Plan of Action in the post-UNCED period. It examines the degree to which potential gains from the agricultural sector can be realized in the context of overall development objectives, focusing on three major dimensions of sustainable agriculture and rural development: economic, social and environmental. The report also highlights the special features of agriculture, including its contribution to the economy as a whole and its place in the fabric of rural life. In this connection and to better understand the benefits of agriculture that extend beyond primary food production, the Government of the Netherlands and FAO co-sponsored a conference on the multifunctional character of agriculture and land (Maastricht, 12-17 September 1999) as an inter-sessional input to the eighth session of the Commission. The report of the Chairman of the Maastricht conference is before the Commission as document E/CN.17/2000/_.

II. Sustainable agriculture, food security and economic development

A. Trends in agricultural production and food security

4. FAO's latest provisional estimates indicate that world agricultural production (crop and livestock) in 1998 stagnated at the same level as in 1997, making this the only year in the decade of the 1990s in which no expansion in output occurred. Production is

estimated to have declined in both developed and developing regions; for the latter countries, this marks the worst performance year since 1989. Table 1 shows the annual percentage change in production from 1991-1998 (provisional), according to the regional groupings used by FAO.[3]

5. Among the developing countries, the most important factor behind the slowdown was a sharp decline in production in the Far East and Oceania region, including, among the largest producers, China, India and the Philippines, caused by a variety of weather problems (heavy rains and floods and El Niño-related droughts). Bad weather, including two serious hurricanes, also disrupted agricultural production in Latin America and the Caribbean, while unfavourable weather conditions as well as continuing civil strife affected production in sub-Saharan Africa for the second consecutive year (although a slight gain from a sharp decline in 1997 is indicated). Only in the Near East and North Africa group did agricultural production increase to any extent in 1998, more than recovering from a major downturn the year before.

6. Among developed countries, crop and livestock production declined significantly in several countries of the Commonwealth of Independent States (CIS), while it declined slightly in the countries of Eastern and Western Europe. North America, Australia, New Zealand and Japan posted, on balance, small gains.

7. As table 1 also shows, the global stagnation in agricultural production estimated for 1998 compares unfavourably with an average annual rate of growth of 2.2 per cent over the 1994-1998 period, during which developing countries' output gains significantly outpaced that of developed countries. In fact, only in sub-Saharan Africa did the growth in average annual agricultural production over the 1994-1998 period fail to exceed population growth. But even with overall production gains throughout the decade, the number of countries facing serious food shortages numbered 37 in 1998 and 1999, and it has been necessary for FAO's Special Relief Operations Service to intervene in 64 countries over the last two years.[4]

8. A major new publication by FAO, *The State of Food Insecurity in the World, 1999*, presents updated data on the number of people experiencing hunger and examines the reasons behind this. The most recent estimates indicate a continued decline in the number of hungry people living in developing countries, from 830 million for the period 1990-1992 down to around 790 million in 1995-1997.[5] Tables 2 and 3 show the estimated undernourished population over a nearly 30-year time span, disaggregated according to the FAO regional groupings, in both percentage and absolute terms. It is noteworthy that while the absolute number of hungry has declined or shown fluctuating movement in most developing regions, the figure for sub-Saharan Africa has been consistently rising. And in contrast to the other regions, the percentage share of population undernourished in sub-Saharan Africa has barely changed over the past 26 years.

9. *The State of Food Insecurity in the World, 1999*, also estimated, for the first time, the extent of hungry people in the developed countries, grouped into industrialized countries and countries with economies in transition; these figures are shown in table 4. While the total number of undernourished is estimated to be 34 million, amounting to 3 per cent of the population, it is clear that the bulk of this figure and of its increase since the beginning of the decade is due to growing hunger in the transition economies.

10. The latest FAO data show a decline of 40 million in the number of hungry people living in developing countries between 1990-1992 and 1995-1997, averaging out to about 8 million fewer hungry a year. This is a larger yearly drop than measured in earlier periods and is encouraging news. Nevertheless, the figure must be kept in perspective vis-à-vis the total number of undernourished people in developing countries of around 790 million. FAO has determined that the average annual decrease needed to reach the World Food Summit target is nearly 20 million or two and one half times more than the current figure. It is of great concern that progress to date in reducing hunger has led to the conclusion in late 1999 — only three years after the Summit — that the central goal of reducing by half the number of undernourished people in the world by the year 2015 will not be met unless significant policy changes occur.[6]

B. Macroeconomic policy reforms and agricultural trade liberalization

11. The overall statistics cited above should not negate the fact that significant progress in overcoming hunger and poverty has been made in individual countries and regions and at local levels over the past two decades. Successful examples show that hunger

can be eliminated, with the right policies and measures that promote sustainable agriculture and support comprehensive rural development schemes that, *inter alia*, improve access to land, combat poverty, create employment and reduce rural emigration. The international community has committed itself to these goals in its adoption of Agenda 21 and the World Food Summit Plan of Action, as well as in the final agreements of other recent conferences in the economic, social and environmental areas.

12. With these commitments in mind and faced with the impact of related international agreements, such as the Uruguay Round of multilateral trade negotiations,[7] Governments have undertaken an ongoing process of policy reforms that have facilitated progress towards the objectives of sustainable agriculture and rural development. In developing countries, past macroeconomic policies have largely discriminated against the agricultural sector, both directly, through disproportionately low allocation of public funds, export taxes, low collection prices by parastatals, export bans and impediments to free internal flows of goods, and indirectly, through overvalued exchange rates and the relative protection given to other sectors — mainly manufacturing — plus an overall urban bias. Unfortunately, international markets for agriculture remain highly distorted, limiting the economic benefits that could accrue to agriculture in developing countries as a result of trade liberalization, and hindering progress on other aspects of sustainable agricultural and rural development.

13. On the issue of policy reforms related to agricultural trade liberalization, a recent study carried out by FAO in 16 developing countries on the implementation of the Agreement on Agriculture and other Uruguay Round agreements affecting agriculture revealed that none of the countries had to reformulate their domestic policies in order to comply with the general provisions of or with their specific commitments under the Agreement. For most of them, the reform process under the Agreement was a continuation of earlier reforms already adopted under structural adjustment programmes, regional agreements or unilateral liberalization programmes. Two other agreements concerning foodstuffs were reached in the Uruguay Round: the Agreement on the Application of Sanitary and Phytosanitary Standards and the Agreement on Technical Barriers to Trade. These agreements are strongly influencing national and supranational agricultural policy designed to limit obstacles to trade in the form of unjustifiable protectionist measures related to food safety and food quality. International support to assist developing countries in becoming informed and equal partners in trade negotiation has been forthcoming. FAO has provided assistance to member countries in reviewing their current food and agricultural policies in relation to those agreed under the World Trade Organization (WTO) and in preparing for the new round of negotiations. Concerning agricultural trade and related issues, six agencies (WTO, the United Nations Conference on Trade and Development (UNCTAD), the International Trade Centre (ITC), the World Bank, the International Monetary Fund (IMF) and the United Nations Development Programme (UNDP)) are promoting an Integrated Framework Initiative for providing trade-related assistance to the least developed countries.

14. As part of the implementation of the World Food Summit Plan of Action, 150 country strategies for national agricultural development plans have been prepared, at FAO's initiative, with a view to enlisting the partnership of the United Nations system and other development agencies and promoting investment in agriculture. Regional strategies and programmes for agricultural development and food security are being prepared concurrently.

15. In most developed countries, reforms in agro-environmental policy measures are making a major contribution towards promoting sustainable agricultural and rural development. The 15 members of the European Union have formulated "Agenda 2000", which aims at integrating environmental goals into the common agriculture policy. In the United States, major provisions were made in the 1996 Farm Bill to strengthen the Conservation Reserve Program aimed at reducing soil erosion and water pollution. In Canada, a sustainable development strategy entitled "Agriculture in harmony with nature: strategy for environmentally sustainable agriculture and agri-food" was formulated in 1997. The Organisation for Economic Cooperation and Development (OECD) countries as a whole accorded priority to improving the environmental performance of agriculture, appropriately managing land and other natural resources, and addressing public concerns related to the safety of food throughout the agri-food chain.

16. In developing countries, recent agricultural sector policy reforms may be generalized to include providing a stable legislative framework, which guarantees ownership of and access to productive resources, especially land; improving the functioning of markets (including for labour and credit); sanctioning of property rights; and creation of risk-reduction mechanisms. Major policies and programmes have mainly been focused on food security concerns, rural development programmes, and development of natural resources management plans. More specific examples are:

- In Africa, major efforts on sectoral policy reforms and strategies for promoting food security and rural development have contributed towards the deregulation of commodity imports, agriculture diversification, the development and adoption of comprehensive rural development strategies and the generation of rural employment opportunities through privatization of agro-industries. In addition, national environmental action plans developed with assistance from the World Bank focus on controlling desertification, sustainable management of forestry resources, improvements in soil fertility conditions and agriculture diversification;
- In several countries of the Latin America and Caribbean region, a growth-oriented economic environment and a macroeconomic and sectoral framework favourable to rural development are being introduced with technical assistance from the Inter-American Development Bank and the World Bank. Strategic options being considered include fostering human capital development and the creation of permanent rural jobs through public investments geared to conserving and restoring natural resources;
- In South-East Asia, where the recent economic crisis has been most severe, a plan of action on rural development and poverty eradication was jointly developed at the Sixth Association of Southeast Asian Nations (ASEAN) Summit, held in December 1998 at Hanoi;
- In South Asia, with technical assistance from the Economic and Social Commission for Asia and the Pacific (ESCAP), a multi-year project on sustainable agricultural development strategies is being implemented in several countries. Similar exercises have been completed in four Pacific island least developed countries.

17. In general, it may be said that the impact of economy-wide policy reforms and agriculture trade liberalization has been to place farmers in a better position to invest in land improvement. However, there is still a considerable challenge to be faced in integrating both economy-wide and agriculture sectoral policies and strategies in pursuit of sustainable agriculture and rural development.

C. International cooperation related to food and agriculture

18. Estimates for 1998 indicate that official development assistance (ODA) from OECD member countries to developing countries and multilateral development agencies rose to $51.9 billion, reversing several years of decline. The fall-off in the late 1990s had been so sharp, however, that ODA flows remain about the same now as they were in 1980 (measured in 1995 US$). Measured in constant prices, ODA provided to the agricultural sector has been steadily declining since the late 1980s and throughout the 1990s, amounting to only $7.5 billion (1995-1997 average), or 14 per cent of total ODA, compared to nearly $15 billion, or 25 per cent of ODA, 10 years before (1986-1988 average).[8]

19. While private sector investment in agricultural research has risen during the 1990s, this overwhelmingly remains in the developed countries. Moreover, distribution of foreign direct investment (FDI), which has increased significantly to developing countries during the last decade, is highly uneven and directed mainly outside the agricultural sector. The overall result has been to reduce the total volume of resources flowing to agricultural development in general and to the achievement of sustainable agriculture and rural development objectives in particular. The worst affected sub-sectors are those not directly involved in agricultural production. These include some agro-industries, inputs to manufacturing, regional and river basin development, and rural development. FAO has estimated that the combined reduction experienced by these sub-sectors between 1990 and 1997 was 46 per cent.

20. The five-year review of implementation of Agenda 21 carried out in 1997 urged Governments and

the international community to continue or increase investments in agricultural research and to assist developing countries, in particular those with high population densities, to gain access to the results of such research and to technology aimed at improving agricultural productivity in limited spaces. Several global initiatives have sought to compensate for the reduction in assistance to the agricultural sectors of poor countries, including the United Nations Special Initiative for Africa (UNSIA) and the United Nations Development Assistance Framework (UNDAF). In addition, renewed efforts are under way by donors to boost their support to the Consultative Group on International Agricultural Research (CGIAR), which faced a serious funding crisis in the mid-1990s. More than 50 countries, private foundations, and international and regional organizations contribute to the CGIAR system, a network of 16 international agricultural research centres, including 13 located in developing countries. The "third system review" of CGIAR, completed in October 1998, concluded that the system would need resources of about $400 million a year (up from $345 million in 1998) to support an expanded and reoriented research agenda which focuses on sustainable agricultural development.[9]

III. Agriculture and social development

A. Poverty alleviation

21. As stated in the Rome Declaration on World Food Security, poverty is a major cause of food insecurity and sustainable progress in poverty eradication is critical to improve access to food.[10] The World Bank estimates that about 1.5 billion people suffer from poverty — defined as living on less than $1 per day — and if recent trends persist this figure could rise to 1.9 billion by 2015. Even though there have been some successes in reducing poverty levels in certain developing country regions, the continued increase in overall population levels is raising the absolute number of the poor. Moreover, the gap between rich and poor countries is increasing, as is the marginalization of the poor in general and poor women in particular.

22. Poverty is linked with many serious social inequalities which contribute to hunger and malnutrition. Of the 4.4 billion people living in developing countries, it is estimated that nearly three fifths lack basic sanitation; a third have no access to clean water; a quarter lack adequate housing; and a fifth have no access to modern health services.[11] Sickness and disease adversely affect agricultural production in the poorest areas, which depend on human labour for much of the work. Women and children are more likely than men to be living in poverty. Other vulnerable groups, including indigenous populations, are also disproportionately affected by poverty. In countries afflicted by high rates of human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), many in sub-Saharan Africa, agricultural output has been severely affected by the impact on rural workers.

23. In addition to the continuing pressures of population growth — estimated to increase from 6 billion people in 1999 to around 7.5 billion in 2020 — a further factor in analysing the social dimensions of hunger and poverty is the growing rate of urbanization, particularly in the developing countries. Nearly 60 per cent of the world's population are expected to be living in urban areas in 25 years, of whom approximately 90 per cent will be in developing countries. The World Bank has examined various national policies aimed at discouraging rural-urban migration and concluded that the best approach might be for Governments to pursue development policies that benefit both urban and rural areas.[12]

24. In urban areas of low income countries, agriculture is developing as an informal activity practised by poor and landless city dwellers. In many countries, urban and peri-urban agriculture also includes intensive and well-managed production by commercial enterprises. Both contribute significantly to food security, employment and improved livelihood in cities. Other rural-urban linkages related to agriculture, food consumption patterns, commercialization, gender issues and financial flows are addressed in more detail in addendum 1 to the present report.

25. A review by FAO of structural and institutional reforms that have been initiated in many poorer areas highlights the role of local institutions in mitigating, transforming and responding to macroeconomic changes affecting rural economies and rural households, including female-headed households. Several Governments, in cooperation with multilateral and bilateral agencies, are engaged in designing policies and launching programmes and projects for poverty alleviation in rural areas with the broader

strategic objective of ensuring sustainable livelihoods. The experience gained in these activities is being analysed and shared among United Nations organizations, such as FAO, the World Food Programme (WFP), the International Fund for Agricultural Development (IFAD) and UNDP. An inter-agency programme led by FAO is focusing on rural household income strategies and their interaction with the local institutional environment. The programme aims to identify constraints and biases against the rural poor and promote the development of those institutions or organizations that may specifically benefit the income-earning efforts of poor households.

B. Decentralization and institutional reforms

26. The ongoing institutional and related legal reforms, as well as the parallel evolution of land tenure systems, support achievement of sustainable agriculture and rural development objectives. These reforms are considered necessary for enhancing community and private sector participation in overall economic development, for the stimulation of private investment in agriculture and for the reduction of social disparities, including gender disparities.[13] Governments and international organizations are increasingly involved in institutional capacity-building, particularly at local level. Due to the political nature of institutional policies, however, this reform process has often been extremely slow and its effects on the sustainability of the agricultural sector are yet to be felt in many areas.

27. The 1990s have witnessed a growing trend in many countries towards partnerships between the public and private sectors and organizations of civil society in the accomplishment of common tasks. Experience has shown that the state should provide an enabling institutional and regulatory environment for agricultural and rural development, and does not necessarily have to be involved in the provision of all services previously considered to be exclusively in the public sector domain. Some of these services may be performed more cost effectively by the private or non-governmental sector, through a system of sub-contracting and other forms of cooperation. This reform can often be combined with incentives to enhance the capacity of the private sector and non-governmental organizations to provide services from which the state has disengaged, or for which civil society has a strong comparative advantage.

28. Many developing countries, particularly in West and North Africa, Latin America and more recently in South-East Asia, are engaged in designing comprehensive programmes in the context of World Bank agricultural sectoral loans, including institutional reforms. Farmers' organizations, including cooperatives and professional bodies, are being established or strengthened with a view to providing complementary services at local level and participating in policy debate with decentralized public institutions.

29. Such countries as Hungary, Poland, Romania and Lithuania are now elaborating ways of developing more appropriate, market-responsive local institutions to help fill the institutional gap created by the transformation of centrally planned agricultural production systems into market-driven mechanisms. In some countries, the development of new legal frameworks for promoting the establishment of member-controlled and financed agricultural cooperatives is helping to improve the provision of essential services to farmers.

30. There is also a growing interest in the promotion of a variety of more decentralized, locally financed and market-oriented institutional mechanisms to support farmers in sharing information and collaborating on sustainable natural resource management and rural development issues. These issues were discussed at a technical consultation on decentralization for rural development in late 1997, co-sponsored by FAO, IFAD, the World Bank and the German and Swiss development cooperation agencies. Follow-up activities have been undertaken in a range of countries, including Senegal, Mali, Morocco, Bolivia, Viet Nam and Cambodia.

31. The role that local organizations can play in partnership with government is also receiving increased attention at the national level as regards disaster prevention and preparedness. The need for promoting more decentralized and locally controlled institutional mechanisms for managing environmental risk and responding to rehabilitation requirements, was further highlighted by the problems experienced in the aftermath of recent severe hurricanes in Central America.

C. Evolution of land tenure structures

32. Inadequate land tenure structures are still a major obstacle to sustainable agriculture and rural development in many countries. In particular, women's access to land remains an unresolved issue in a number of cases. Since UNCED, however, there have been considerable developments in the role of land tenure institutions. These changes have been taking place in three parallel (although often uncoordinated) processes:

(a) Land tenure regularization with the development of integrated cadastre, land property registries and land information systems;

(b) The growing involvement of land-users and other stakeholders in the use of such systems for land tenure regularization and planning;

(c) The application of these methods beyond private lands for the regularization of user rights and the sustainable use of communal lands.

33. With these three major developments, land tenure reform and regularization have become important policy tools for building sustainable land management and land administration in rural areas. These land use trends are further analysed in the report of the Secretary-General on integrated planning and management of land resources (E/CN.17/2000/—), which also contains examples of their impact on promoting sustainable agriculture and improving the utilization of land resources in both developed and developing countries.[14]

IV. Agriculture and the environment

34. Most of the priority issues contained in chapter 14 of Agenda 21 relate to the sustainable management of basic natural resources for agriculture and the use of agro-chemicals and other technologies that affect these resources. In reviewing progress made in 1997, the Commission highlighted the problems of continuing land degradation and the need to follow up the World Food Summit objectives in these areas. The Commission also emphasized the importance of accelerating the implementation of the plan of action of the Leipzig International Conference on Plant Genetic Resources and the essential need for furthering agricultural research and technology transfer. Recent progress on all these aspects is reported below. In addition, new developments related to the impact of urbanization on agriculture; agro-biotechnology; and water for agriculture, are reported here and further elaborated in the addenda to this report. Also, the report of the Secretary-General and its addenda dealing with land issues is highly relevant to the subject.

A. Combating the degradation of agricultural lands

35. Degradation of agricultural land and decline in soil fertility continue to be major threats to food security and sustainable development, especially in developing countries. The problem is most severe in sub-Saharan Africa, where annual average nutrient loss is estimated to be around 24 kilograms (kg)/hectares (ha) and is increasing. In the South Asia region alone, the cost of different forms of land degradation is estimated to be US$ 10 billion per year using the production loss approach. These estimates illustrate the severity of the present problem and indicate the huge future cost of land degradation in the absence of effective land rehabilitation and conservation measures.

36. In parallel with further surveys and assessments of land degradation at the national, regional and international levels, many Governments and international institutions, such as the International Fund for Agricultural Development (IFAD) and the World Bank, are addressing the degradation problem in the context of integrated land use planning and management operations and as an integral part of programmes and projects for land conservation and sustainable agriculture development. The focus of the latter is on rehabilitation and improvement of land resources and on land management practices with multiple benefits, such as zero-tillage.

37. The United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, which entered into force in December 1996 and has been ratified by over 150 countries, has focused efforts on the formulation of national action programmes aimed at preventive and remedial measures to enable those living in the world's drylands to improve their productive capacities in agriculture and livestock.

B. Integrated plant nutrition systems

38. UNCED, in chapter 14, recommended the promotion of IPNS (using balanced supplies of plant nutrients from organic, biological and chemical sources) as a means to overcome the excessive use of mineral fertilizers and/or of livestock wastes in intensive production systems, causing, *inter alia*, water pollution by nitrates, and as a way of reducing the cost of maintaining soil fertility in less intensive systems. Progress has been slow. Water pollution by nitrates is increasing in many countries, causing eutrophication in lakes, estuaries and coastal areas. Continuous soil nutrient depletion without adequate replenishment, such as through the use of fertilizers and other practices, leads to the deterioration of soil productivity and threatens the sustainable production of agriculture and food security. In general, past programmes proposed more self-reliant plant-nutrition strategies but failed to consider links to the cycling and use of organic materials that the farmers have access to. In addition, soil and water management aspects have not been integrated or addressed adequately. To rectify this, FAO in collaboration with the World Bank, the CGIAR system and other stakeholders have formulated a soil fertility initiative for sub-Sahara Africa. The partner organizations are currently assisting 14 countries in preparing their national action programmes for soil productivity improvement, taking a holistic approach, including crop, soil, water, nutrient and pest management. Private sector institutions and NGOs are also actively involved in this programme.

39. In order to facilitate adoption of integrated soil and nutrient management, FAO during the last three years initiated a number of collaborative programmes with the national agricultural research systems in more than 15 developing countries on integrated soil and nutrient management practices, including sponsoring farmers field schools. As peri-urban agriculture is gaining importance and vast resources of organic wastes are not adequately exploited for profitable use in agriculture, urgent attention is also required to promote the best methods of composting and recycling them safely.

C. Control of pests and diseases

40. Recent developments in this field are in line with UNCED commitments and show significant progress in three directions: the development of regulatory frameworks; the extension of international cooperation dealing with emergencies; and the expanded use of integrated pest control methods.

41. The International Plant Protection Convention, an international treaty administered by FAO, is concerned with invasive plant species and pests. It has as its main purpose the securing of common and effective action to prevent the introduction and spread of pests of plants and plant products and to promote measures for their control. The Convention covers all plants, including the wild flora and all pests including weeds. The Convention was amended in 1997 to include recent developments in establishing standard-setting procedures, including institutional arrangements. The development and adoption of standards are facilitated by the secretariat of the Convention, while the necessary institutional arrangements and procedures for the development and adoption of international standards are under the authority of the Commission on Phytosanitary Measures.

42. The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade was adopted in 1998 to reduce the availability of pesticides that can cause devastating problems to human health and the environment. The Convention will enter into force once 50 countries have ratified it. Governments have agreed to continue to implement a voluntary PIC procedure using the new procedures of the Convention until the Convention formally enters into force. UNEP and FAO have been assigned the responsibility for providing the secretariat of the Convention.

43. In 1994, FAO established an emergency prevention system for transboundary animal and plant pests and diseases in order to minimize the risk of such emergencies developing and affecting food security, farm income and the environment. Regarding livestock, the programme provides for early warning and early reaction to threats of epidemics, and is an essential component of the wider ongoing efforts to respond to the accelerating demand for meat and milk in developing countries and to the growing role of livestock in sustainable agriculture and rural development. It works in partnership with global and regional organizations, including the World Health Organization (WHO), the Organization for African Unity (OAU), the International Atomic Energy Agency (IAEA), the European Community (EC) and several

bilateral donors. It aims at the eradication of transboundary diseases, such as foot-and-mouth disease and rinderpest, which render the animal products from a number of developing countries untradeable.

44. Migratory pest control often relies heavily on the wide use of pesticides. This has raised many environmental and human health concerns. Through the collaborative EMPRES locust programme, affected countries, donors and FAO aim to reduce pesticide use and optimize control measures through the improvement of early warning, early reaction, the promotion of research and implementation of environmentally friendly control methods. Outbreaks, such as that which developed in the countries bordering the Red Sea in 1997-1998, have been brought under control through this programme before they develop into a plague and extend to other countries and regions.

D. Integrated pest management

45. Pesticide use continues to increase in developing countries, but in many developed countries it is falling gradually from very high levels. New product development has contributed to this reduction by providing new compounds with low application rates. Integrated pest management aims to reduce the negative impact of crop protection measures on the environment and human health. The initial focus of integrated pest management was on rice production in Asia, but it has spread to a variety of crops in a growing number of countries. Integrated pest management programmes across Asia continue to develop through community empowerment and policy reform in a wide range of crops, including vegetables and cotton on which the largest amounts of pesticides are being used. Better informed Asian urban consumers now demand pesticide-clean produce, and this has given further impetus to integrated pest management in a number of Asian countries.

46. In some African countries, parastatals, such as cocoa boards, cotton companies and development boards, are among the promoters of integrated pest management programmes to implement pest management practices that will complement new pesticide residue limits being enforced in importing countries. New programmes have evolved from integrated production and pest management approaches that also focus on production technologies and soil fertility issues as well as integrated pest management. There has been a significant sharing of expertise across the southern and eastern Africa region, especially with support from the Zimbabwe integrated production and pest management programme.

47. In the Middle East, integrated pest management programmes are being developed, with national and bilaterally assisted programmes showing positive results on fruits and vegetables. In Latin America, existing programmes are expanding taking the Asian experience into account. A number of national programmes in developed countries also promote integrated pest management, particularly on fruit trees and vegetables. The use of sterile male techniques, such as those promoted by the joint FAO/IAEA programmes in this field, provides an important contribution to the eradication campaigns of pests such as fruit flies and to avoidance of widespread applications of pesticides.

E. Agro-biodiversity and genetic resources

48. It is important that recent international agreements have recognized that biodiversity created over millennia by agriculture needs to be protected and used for development. The Convention on Biological Diversity has helped to focus attention on the very important issues associated with genetic resources for food and agriculture, and urged complementary programmes in this area with FAO. For its part, FAO has continued its follow-up activities to the Leipzig International Conference on Plant Genetic Resources, held in 1996, and has expanded its programme on animal genetic resources; both these activities are carried out under the policy guidance of FAO's intergovernmental Commission on Genetic Resources for Food and Agriculture (CGRFA).

49. The 161-member CGRFA is currently negotiating the revision of the International Undertaking on Plant Genetic Resources, in collaboration with the Convention on Biological Diversity, *inter alia*, for the realization of an agreement on farmers' rights (as requested in Agenda 21), as well as access to plant genetic resources for food and agriculture, including *ex situ* collections not addressed by the Convention. The Commission also monitors the implementation of the rolling global plan of action on plant genetic resources for food and agriculture, adopted by the Leipzig Conference. As part of this monitoring process, a series

of regional review meetings were convened in 1998 to promote and facilitate implementation of the plan by countries and major stakeholders.

50. There has also been substantial progress in strengthening of national genetic resources programmes, and in setting up regional and crop networks, to promote links between conservation and use. With support from the Global Environment Facility (GEF) and the United Nations University (UNU) and in collaboration with national organizations, FAO is developing participatory and sustainable models of *in situ* agrobiodiversity management programmes. The World Early Warning and Information System on Plant Genetic Resources for Food and Agriculture has also been strengthened.

51. In 1999, CGRFA and its subsidiary intergovernmental Technical Working Group on Animal Genetic Resources endorsed the FAO global strategy for the management of farm animal genetic resources, aiming to promote their conservation and sustainable utilization. The strategy supports the development and use of critical technologies for effective conservation and sustainable use, including indigenous technologies and appropriate biotechnologies. There remains a need for Governments and the international community to make available the financial resources and develop the capacities necessary to respond to the need for sustainable intensification of animal production systems, and to overcome the increasing rate of genetic erosion. FAO estimates that 800 of 2,000 breeds at risk have been lost this century, and 30 per cent of those remaining risk disappearing within a generation. CGRFA also agreed that FAO should coordinate the preparation of a country-driven report on the state of the world's animal genetic resources.

F. Organic farming[15]

52. Grass-roots organizations, farmers and traders are now engaged in a worldwide movement in favour of organic food and fibre production. In European countries, organic farming occupies 6 to 10 per cent of arable lands, and organic management covers a significant part of diverse systems, such as pastures in New Zealand, cereals in North America, coffee in Mexico and cotton and bananas in several African countries. As a result, while representing around 1 per cent of the world food market, production and consumption of certified organic products continues to grow at about 20 per cent per annum. Organic agriculture can link food production, income generation and environment protection requirements by making maximum use of local knowledge, biodiversity, on-farm resources and biological control of pests and avoiding the use of agro-chemicals. The approach is receiving an impetus with the withdrawal of government subsidies on agricultural inputs, the introduction of favourable policy instruments, and growing concerns for food safety and environmental protection. These factors have provided new market opportunities, including exports by developing countries.

53. Two important events likely to support even greater acceptance and development of organic agriculture occurred recently. In January 1999, the FAO Committee on Agriculture, representing 115 member Governments, reviewed recent progress in this area and directed the organization to develop a coherent programme on organic agriculture. It was requested to take a stronger role in the development of organic agriculture, in collaboration with national programmes and other partners, such as the International Federation of Organic Agriculture Movements.

54. A second major development was the approval by the joint FAO/WHO food standards programme of the Codex Alimentarius Commission, of guidelines for the production, processing, labelling and marketing of organically produced foods. These standards are essential to promote the development of national legislation, encourage international trade and provide consumer confidence in certified organic products.

G. Other developments

55. Some ongoing initiatives aim at meeting several of the objectives of sustainable agriculture and rural development and the World Food Summit action plan through improvements of the farming system as a whole. Several comprehensive programmes on sustainable farming systems are being promoted by national authorities in developed and developing countries, by regional and international institutions and NGOs. Some of these focus both on sustainability and food security objectives. An important example is the FAO-initiated special programme on food security, which was endorsed by Heads of State and

Governments during the 1996 World Food Summit. The participatory, country-driven programme aims at assisting low-income food-deficit countries in improving their national food security. It is currently operational in over 50 countries through the mobilization and training of local personnel and farmers involved in pilot projects. Phase I combines the sustainable intensification of crop production systems with small-scale irrigation and water control and diversification in small animal production, including apiculture, aquaculture and artisanal fisheries. Field activities serve as a basis for a participatory approach to the analysis of socio-economic constraints, such as land tenure, inputs, technology, markets, credit and for policy and institutional reforms. While the programme's focus is on addressing food insecurity problems in poverty-prone areas, action is not limited to working on production constraints and opportunities. It also stresses issues of equity (including gender problems), and access to food through such actions as those that promote agriculture-based rural employment. The programme is promoting exchange of knowledge and experience between developing countries through its South-South cooperation initiative, under which more advanced developing countries send field technicians and experts to specific recipient countries for two or three years, during which they live with the rural communities involved in the programme. Phase II of the programme, the macroeconomic phase, consists of assistance to Governments to prepare a food security and agricultural policy programme and an investment programme, and the preparation of feasibility studies of bankable projects. Various financial institutions, such as the World Bank, the African Development Bank and the Islamic Development Bank, UNDP and diverse bilateral donors have already joined in the partnership.

56. Rural energy supply is another issue requiring attention. In most developing countries, the majority of the rural population is dependent on traditional fuels, such as wood, dung and crop residues. Rural energy policies and programmes have been effected in only a few countries, and the intensity of effort is still much below the scale of needs. According to a recent study by FAO and the World Energy Council, only 33 per cent of the rural population in developing countries today have access to electricity. Although globally the number of rural households with access to electricity doubled from 610 million in 1970 to 1.4 billion in 1990, this increase barely kept pace with population growth.[16] The rural energy transition required to enhance productivity — as outlined under sustainable agriculture and rural development — was still to take place. Three technologies have, however, advanced considerably in terms of both cost and reliability: wind power generation; photovoltaic cells; and bioenergy conversion. All three are being promoted in Europe, the United States and selected developing countries, including Argentina, Brazil, Cape Verde, China, India, Mexico and Zimbabwe.

V. Challenges and options for further action

57. As described in chapter 14 of Agenda 21, the major objective of sustainable agriculture and rural development is to increase food production in a sustainable way and enhance food security. Following on this, world leaders at the 1996 World Food Summit pledged their political will and common and national commitment to achieving food security for all and to an ongoing effort to eradicate hunger in all countries, with an immediate view to reducing the number of undernourished to half their current level no later than 2015.[17] This challenge was given high priority by the General Assembly when it reviewed developments relating to agriculture in 1997. As evidenced in the most recent FAO publications, the current pace of progress towards meeting this goal is uneven and insufficient, and expectations are that it will not be reached. There are no simple solutions to the complex problems and challenges of eliminating hunger, but rather a range of policies, methods and tools which can be used in different mixes in order to fit the diversity of production and consumption patterns in agriculture. Such diversity can itself be an essential component of sustainability.[18] Despite this complexity and diversity, a basic three-prong approach may be discerned, involving: (a) an accelerated increase in the amount of food to be produced and traded; (b) giving a fair share of resources to agriculture and rural area development; and (c) a major effort in raising the income level of the poor.

58. Implementation of the 12 inter-linked programme areas contained in chapter 14 and realization of the full potential contribution of sustainable agriculture and rural development to economic development will still take several years. Seven years after UNCED and three years after the Rome Declaration, most issues and

challenges outlined in previous progress reports are still outstanding. Environmental problems, such as land degradation, loss of agro-biodiversity and the impact of climate change on agriculture, pose an increasing threat to the ability of nations to meet their growing food needs while simultaneously improving the quality of life of rural people. Although the review of recent developments contained in the present report could not cover all the issues related to sustainable agriculture, certain themes and challenges have emerged which require the highest priority. Most of these have been identified above and most concern the following two fundamental questions related to sustainable agriculture and rural development:

- How to accelerate progress in reducing the number of poor and improving household food security without further degrading natural resources?
- How to cope in sustainable ways with the multiple stresses imposed by consumers on agriculture as a result of population growth, rising incomes, urbanization, demands for higher food quality and safety standards and growing environmental concerns?

59. In considering the twin challenges outlined above, the report has highlighted the need for innovations and adjustments in the following priority areas, which are briefly described below:

(a) Sustainable intensification;

(b) Vertical and intersectoral integration;

(c) Agricultural trade liberalization;

(d) Emergency preparedness;

(e) Information, participation and empowerment;

(f) Resource flows and financing mechanisms;

(g) Improved policies and programmes.

Sustainable intensification

60. A recent study assessing world food prospects in the next two decades has concluded that the world's farmers will have to produce 40 per cent more grain in 2020 to feed a growing population.[19] The production increases required to improve food security and to meet the needs and changing demand patterns of a growing and increasingly urbanized population will have to result mainly from intensification of agricultural production — either in the form of higher yields or through increased cropping intensity. However, growth in cereal yields, both in developed and developing countries, has been declining since the "green revolution" of the 1970s. Higher yields will depend on an increased priority being accorded to investment in primary agriculture and upon the agricultural research and extension system making a wide range of modern technologies accessible. But although partial intensification of agriculture has already been achieved in many regions, the sustainable intensification of agriculture without further degradation of natural resources and environment still remains a challenge.

Vertical and intersectoral integration

61. Application of existing knowledge to reduce the yield gap between current production levels and potential thresholds can only be effected if rising productivity is stimulated by suitable price incentives arising from efficient markets for inputs and agricultural produce. Increasing supplies of agricultural products will help to support economic growth and generate employment in high potential rural areas and high population areas near urban centres through vertical integration of production systems, leading to increases in value added before produce reaches the ultimate consumer.

62. Conversely, the full benefit of higher productivity will only be felt by consumers if it is accompanied by increases in marketing efficiency at each point in the supply chain. Addressing consumption patterns and the distribution of benefits and ensuring food safety along all links of the food production and processing chain should form part of a wider agricultural development and food security strategy. Input and output linkages to other sectors — especially the non-farm rural sector — have also proved to be critical in ensuring agricultural development and viability and in offering additional employment and income-earning opportunities to rural people. The promotion of agro-industries and closer economic integration with fisheries, forestry and tourism are therefore of great importance.

Agricultural trade liberalization

63. Despite some progress in reducing trade-distorting policy, support and protection to agriculture is still high in many developed countries and adversely affect agriculture in other countries by depressing commodity prices, which undermines investment in the

sector. While net food-importing countries have benefited from the surpluses, over the longer term the access to cheaper imports has led to reduced support for domestic agriculture in public policies. The remaining distortions have mostly negative consequences for non-subsidizing exporting countries, including developing countries. Reduction of support and protection in higher-income countries, including the reduction of export subsidies, could make a significant contribution to both agricultural trade and to many other aspects of sustainable agriculture and rural development.

64. A major challenge faced by developing countries is to meet internationally accepted requirements related to the sanitary and phytosanitary standards agreement of the Uruguay Round of trade negotiations. That agreement and the technical barriers to trade agreement contain promises of financial and technical assistance for developing countries. Making these promises concrete would be one issue to pursue. The private sector should be enabled to assist developing countries in establishing adequate facilities and procedures for quality assurance. Improved dialogue between the main stakeholders concerning this topic is essential. New issues, such as state trading, competition policy, environmental considerations and labour standards, present a multitude of challenges to developing countries.

Emergency preparedness

65. The frequency of natural and man-made disaster-related emergencies in the agricultural sector is exacerbating problems of food insecurity, while simultaneously funds for pre- and post-emergency food assistance to developing countries are declining. A broader and more concerted effort of risk minimization and contingency planning is required. This should cover both agricultural systems themselves and the related systems involved in input supply, output processing and marketing.

66. To this end, it would be advantageous to streamline, link together and enlarge the many existing early warning and monitoring systems, and also to broaden the scope of food security vulnerability mapping so as to identify and better assess the risks, the bottlenecks, and their causes. Here again, the full information and participation of agricultural producers should be ensured, as they should be the prime beneficiaries and main actors in taking protective precautionary measures and developing collective insurance schemes. The development of "safety nets" in case of economic crises brought about by macroeconomic instability appears to be an effective means to tackle the food security problem in the short term. Such provisions could also prove to be useful for creating synergies with longer-term elements essential to a sound development strategy, such as investment in human and physical capital and efforts to increase agricultural productivity.

Resource flows and financing mechanisms

67. There is a need for increased ODA, especially to the least developed countries, to assist in providing these basic facilities in the rural areas. While this would require a reversal of recent trends, FDI has been increasing rapidly and its broader distribution and application to developing countries is of vital importance for the attainment of sustainable agriculture and rural development objectives. Despite the dramatic rise in FDI compared to trends in ODA, most of the benefits have been concentrated on very few countries. It is necessary to explore ways to attract these investments to a wider range of developing countries and to develop modalities for ensuring that a larger share is channelled to agriculture and to rural areas in general. Potential synergies between public and private investments in agriculture and rural areas need to be re-examined. However, private investments can only be attracted if adequate levels of public goods — including infrastructure and other measures to promote easy access to markets — are provided.

68. Governments can directly increase resource flows to rural areas through domestic resource mobilization resulting from reforms to existing subsidy and tax regimes; they can also enhance the efficiency of resource use. This could entail reforming current tax systems, full-cost pricing of natural resource services, curtailing unproductive expenditures, reducing subsidies and unnecessary military expenditures. These changes require strong government commitment, institutional reforms and a system of good governance.

69. Possible innovative financing mechanisms include compensating farmers for the global benefits they generate through conserving agro-biodiversity, reducing greenhouse gas emissions and increasing carbon sequestration. Attracting FDI through a clean development mechanism under the current structure of the Kyoto Protocol (or remodelling it to match the twin

objectives of increasing carbon sequestration and improving food security) could provide an opportunity to narrow the investment gap resulting from decreased ODA. Increased investments in efficient use of renewable energy resources in the rural areas could also be a part of this mechanism.

Information, participation and empowerment

70. There is a need for increased access to modernized information technology for capacity-building and for making farmers better informed about practices, prices and access to inputs and output markets. Empowerment of local communities through enhanced knowledge and access to information, new skills, and greater capacity to plan and manage their affairs — backed by institutional reforms including strengthened governmental implementation processes and budgetary management — are vital to the success of sustainable agriculture and rural development and the World Food Summit Plan of Action. The importance of active participation of farmers in producer associations, field schools and other local community groups involved in sustainable intensification and diversification processes has been amply demonstrated. Improvement programmes must go beyond the usual fields of agricultural education and training to cover the management of farmers associations, their interactions with public administration and private sector, and their role in policy making and planning. While better distribution of knowledge and information is essential for achieving sustainable development, including sustainable agricultural development, there is reason to be optimistic that the next decade will witness more rapid progress in reaching sustainable agriculture and rural development goals, based upon improved knowledge management and access to information leading to greater transparency and better cooperation.

Improved policies and programmes

71. Success in any one of the above priority areas, which are determining progress towards meeting the objectives of sustainable agriculture and rural development and the targets of the World Food Summit, depends upon the existence and application of appropriate policies. Finding appropriate mechanisms to enhance cooperation among stakeholders in sustainable agriculture and rural development is of vital importance since insufficient coordination in programme efforts is putting a strain on both human and financial resources, especially at the national level but also within the international development community.

72. Although some progress has been made at the national level towards improving individual policy measures and developing better programmes for natural resources management, rural development and poverty alleviation, the challenge of designing and effectively implementing complementary policies within different national authorities still remains. Macroeconomic balance and economic stability alone are not sufficient to foster growth in rural areas. Success depends on a conducive policy environment that can deliver increasing agricultural investment, promote natural resource conservation, and enhance human and physical infrastructures that enable all stakeholders to contribute to sustainable agriculture and rural development goals.

73. There is a need to identify areas where policy integration is particularly lacking and to develop ways for successfully promoting such integration at the national level. Policies also need to address a number of microeconomic and other structural reforms in order to minimize any negative impacts of macroeconomic policy changes including:

- Investments in rural infrastructure, agriculture research, human capital and educational development in the rural areas, which do not normally attract private sector investment;
- Economic incentives for sustainable intensification of resource rich areas and enhancement of soil fertility in resource poor areas;
- Removing perverse subsidies that are promoting inefficient energy use in agriculture;
- Reallocation of property rights between public, communal and private ownership; and more equitable sharing of available resources and opportunities in favour of the rural population in general and the rural poor in particular.

Table 1

Annual changes in crop and livestock production, 1991-1998

(Percentage change over previous year)

Region	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*Average 1994-98*
World	**0.4**	**2.2**	**0.6**	**2.9**	**2.1**	**3.7**	**2.4**	**0.0**	**2.2**
Developed countries	**-2.9**	**0.8**	**-4.0**	**0.9**	**-1.8**	**3.0**	**1.2**	**-1.3**	**0.4**
North America	-0.4	7.7	-7.8	14.5	-4.7	4.6	2.8	0.8	3.6
Western Europe	0.6	1.1	-3.1	-1.1	-0.1	4.2	-0.1	-0.4	0.5
Eastern Europe	-1.9	-5.8	1.2	-8.4	4.6	-1.2	1.6	-0.8	-0.9
CIS	••	••	-3.9	-14.4	-4.3	-3.3	0.4	-10.8	-6.5
Australia, New Zealand and Japan	-1.0	3.1	-1.2	-1.0	3.5	3.6	1.8	0.3	1.6
Developing countries	**3.0**	**3.4**	**4.0**	**4.3**	**4.7**	**4.2**	**3.1**	**0.8**	**3.4**
Sub-Saharan Africa	6.0	0.2	3.5	3.2	3.4	5.6	-0.4	0.7	2.5
Far East and Oceania	2.8	4.4	5.8	4.7	5.3	3.9	4.4	-0.3	3.6
Latin America and the Caribbean	2.8	1.2	0.3	4.7	4.9	1.8	3.0	2.5	3.4
Near East and North Africa	2.5	3.4	1.3	0.9	1.0	10.3	-3.5	6.6	3.1

Source: FAO, "The state of food and agriculture", document C99/2, submitted to the FAO Conference, thirtieth session, Rome, 12-23 November 1999.

Note: Two dots (••) indicate that data are not available or are not reported separately.

Table 2
Percentage of population undernourished in developing regions, 1969-1971, 1979-1981, 1990-1992 and 1995-1997

Region	Percentage undernourished			
	1969-71	1979-81	1990-92	1995-97
Sub-Saharan Africa	34	37	35	33
Near East and North Africa	25	9	8	9
East and South-East Asia	43	29	17	13
South Asia	38	38	26	23
Latin America and the Caribbean	19	13	13	11
All developing regions	**37**	**29**	**20**	**18**

Source: Same as table 1.

Table 3
Number of undernourished people in developing regions, 1969-1971, 1979-1981, 1990-1992 and 1995-1997

Region	Number of undernourished (million)			
	1969-71	1979-81	1990-92	1995-97
Sub-Saharan Africa	89	126	164	180
Near East and North Africa	45	22	26	33
East and South-East Asia	504	406	283	241
South Asia	267	338	299	284
Latin America and the Caribbean	54	46	59	53
All developing regions	**960**	**938**	**831**	**791**

Source: Same as table 1.

Table 4
Percentage and number of undernourished people in industrialized countries and countries with economies in transition, 1990-1992 and 1995-1997

Category	Percentage undernourished		Number of undernourished (million)	
	1990-92	1995-97	1990-92	1995-97
Industrialized countries	1	1	9	8
Countries in transition	5	6	20	26
All developed regions	**2**	**3**	**29**	**34**

Source: Same as table 1.

Notes

[1] See *Official Records of the Economic and Social Council, 1995, Supplement No.* (1995/), para. 205.

[2] See *Report of the World Food Summit (13-17 November 1996), Part One* (Rome, FAO, 1997), appendix, World Food Summit Plan of Action, para. 7. "Hunger" and "undernourished" are often used interchangeably. "Food security" is a term to describe access to the food required for a healthy and productive life; it is often considered at the household level.

[3] See FAO, "The state of food and agriculture", document C99/2 submitted to the FAO Conference, thirtieth session, Rome, 12-23 November 1999, paras. 12-15.

[4] Ibid., paras. 15-17.

[5] See FAO, *The State of World Food Insecurity, 1999* (Rome, 1999). The report is available electronically at: http://www.fao.org/NEWS/1999/img/SOFI99-E.PDF. The figure published by FAO in 1996 for the World Food Summit was 840 million hungry people in developing countries (1990-92 average); this has subsequently been revised to 831 million as new information became available, with an estimated range of reliability of + or - 5 per cent.

[6] Ibid.; see also statement of the Director-General of FAO to the FAO Conference, 13 November 1999, and various FAO press releases.

[7] See *Legal Instruments Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, done at Marrakesh on 15 April 1994* (GATT publication No. GATT/1994-7).

[8] See OECD, *Development Cooperation Report* (Paris, 2000); and FAO, "The state of food and agriculture",

loc. cit.; and International Food Policy Research Institute, *World Food Prospects: Critical Issues for the Early Twenty-first Century* (Washington, D.C., 1999).

[9] Consultative Group on International Agricultural Research, "Third system review" (October 1998), available at: http://cgreview.worldbank.org.

[10] See *Report of the World Food Summit* ..., para. 5.

[11] See World Bank, *Entering the Twenty-first Century: World Development Report 1999/2000* (New York, Oxford University Press, 1999).

[12] Ibid.

[13] See also report on a high-level consultation on rural women and information (Rome, 4-6 October 1999), background paper prepared by FAO for the eighth session of the Commission.

[14] See also the Bathurst Declaration and the report of a workshop on land administration for sustainable development (Bathurst, Australia, October 1999), submitted by the Government of Australia to the Commission at its eighth session (E/CN.17/2000/_).

[15] See also, on this topic, background paper entitled "Changing consumption and production patterns: organic agriculture".

[16] See FAO and World Energy Council, *The Challenge of Rural Energy Poverty in Developing Countries* (Rome, 2000).

[17] See *Report of the World Food Summit* ..., Rome Declaration on World Food Security, second paragraph.

[18] See also on this subject the diverse views recorded in the report of the Chairman of a FAO/Netherlands conference on the multifunctional character of agriculture and land (Maastricht, the Netherlands, 12-17 September 1999), submitted by the Government of the Netherlands (E/CN.17/2000/_).

[19] See International Food Policy Research Institute, op. cit.